

**AMENDMENTS TO THE CLAIMS**

1 (Original). A three dimensional periodic structure, comprising:

two substances having different dielectric constants periodically distributed in a three dimensional space, and

a conductive film having a surface resistivity of about  $0.3 \Omega/\text{square}$  or more at an interface between the two substances.

2 (Original). A three dimensional periodic structure according to claim 1, wherein independent conductive particles or clusters of a plurality of conductive particles are coarsely distributed in the conductive film.

3 (Currently Amended). A three dimensional periodic structure according to claim ~~1~~ or 2, wherein the conductive film comprises a conductive material having a conductivity of about  $10^3 \text{ S/cm}$  or more.

4 (Original). A three dimensional periodic structure according to claim 3, wherein the conductive film is an electroless plating film on a surface of at least one of the two substances.

5 (Currently Amended). A three dimensional periodic structure according to claim ~~1~~ or 2, wherein the conductive film is an electroless plating film on a surface of at least one of the two substances.

6 (Currently Amended). A three dimensional periodic structure according to claim ~~1~~ or 2, wherein the conductive film comprises Cu, Ni or InSb.

7 (Currently Amended). A three dimensional periodic structure according to claim ~~1~~ or 2, wherein one of the two substances is air and is disposed so as to have a diamond shape.

8 (Original). A method of producing a three dimensional periodic structure comprising irradiating light onto a light-hardening resin layer in cross-sectional pattern to form a layer of three dimensional periodic structure according to claim 1, and then, at least once, causing a layer of light-hardening resin to contact the resulting irradiated structure and repeating the irradiation.

9 (New). A three dimensional periodic structure according to claim 1, wherein the conductive film comprises a conductive material having a conductivity of about  $10^3$  S/cm or more.

10 (New). A three dimensional periodic structure according to claim 9, wherein the conductive film is an electroless plating film on a surface of at least one of the two substances.

11 (New). A three dimensional periodic structure according to claim 1, wherein the conductive film is an electroless plating film on a surface of at least one of the two substances.

12 (New). A three dimensional periodic structure according to claim 1, wherein the conductive film comprises Cu, Ni or InSb.

13 (New). A three dimensional periodic structure according to claim 1, wherein one of the two substances is air and is disposed so as to have a diamond shape.